

REMARKS

Claims 7-14, 19, and 21-38 are pending in the application and are presented for reconsideration and further examination in view of the foregoing amendments and following remarks. Claims 7-14, 19 and 23-38 have been withdrawn from consideration. Claims 21 and 22 stand rejected under 35 U.S.C. §102 .

Rejection of Claim 21 under 35 U.S.C. §102

In the outstanding Office Action claim 21 was rejected under 35 U.S.C. §102(b) as being anticipated by Akhavain (U.S. Patent No. 5,341,564). Reconsideration and withdrawal of the rejection are respectfully requested. Akhavain fails to disclose each and every feature as now recited in claim 21.

Claim 21 includes the feature of a first portion encapsulant film that comprises a chemical composition that does not affect properties of a second portion encapsulant which include a fluxing agent and a low viscosity. As stated in the specification of the present application on page 7, first complete paragraph, an advantage of having a lower viscosity of the underfilled or lightly filled second portion during the reflow process is that it allows the solder to flow without impediment from the hard nature of the first portions of the encapsulant.

Akhavian discloses a method of fabricating an integrated circuit model. The circuit model has a microscopic self alignment feature so that the input/output pads on the chip are aligned automatically with the input/output pads on the interconnect member without any alignment equipment. This is accomplished by having a plurality of input /output pads in a pattern on the surface of an integrated circuit chip. An interconnect member has a surface which includes input/output pads in a pattern that matches the pattern of pads on the integrated circuit chip. One of

the surfaces has a predetermined number of holes that are one-half to fifty mils deep and the other surface has a predetermined number of protrusions that are one-half to fifty mils high and which are shaped to fit into the holes and prevent the surfaces from sliding on each other when the input/output pad on both of the surfaces are aligned. With this structure the input, the input/output pads on the chips are aligned automatically with the input/output pads on the interconnect member without any alignment equipment.

Akhavian fails to disclose, teach or suggest the following features as recited in claim 21:

I. “said first portion encapsulant film comprises a chemical composition selected so as to not adversely affect properties of the second portion encapsulant”

Or

II. “said properties [of said second portion] including

i. a fluxing agent ...

...

iii. having a low viscosity ...

...”

Akhavian at best discloses a solder paste 12f in column, 4 lines 30-33. Akhavian is silent with respect to the *chemical composition* of the first portion encapsulant selected so as not affect the properties of the second portion encapsulant as recited in claim 21 or the second portion encapsulant including the properties of a *fluxing agent* and a *low viscosity* as recited in claim 21. An advantage of the invention as now recited in claim 21 is that the *low viscosity* allows solder to flow without impediment from the hard nature of the first portions of the encapsulant (see page 7, first complete paragraph of the resent application).

Akhavian fails to disclose, teach or suggest the *chemical composition* of the first portion

encapsulant selected so as not affect the properties of the second portion encapsulant as recited in claim 21 or the second portion encapsulant including the properties of a *fluxing agent* and a *low viscosity* as recited in claim 21 or the advantages thereof.

In view of the foregoing, withdrawal of the rejection of claim 21 as being anticipated by Akhavian under 35 U.S.C. §102 is respectfully requested.

Rejection of Claim 22 under 35 U.S.C. § 102

Claim 22 was rejected under 35 U.S.C. § 102 as being unpatentable over Gutierrez et al. (U.S. Patent No. 5,371,328). Reconsideration and withdrawal of the rejection are respectfully requested. Gutierrez fails to disclose each and every feature as now recited in claim 22.

Claim 22 includes the feature of a film that comprises a chemical composition that does not affect properties of an encapsulant which include a fluxing agent and a low viscosity. As stated in the specification of the present application on page 7, first complete paragraph, an advantage of having a lower viscosity of the underfilled or lightly filled second portion during the reflow process is that it allows the solder to flow without impediment from the hard nature of the first portions of the encapsulant.

Gutierrez et al. discloses a reworkable circuit module. The module allow for a chip or MCM to be easily and quickly removed from a carrier without having to remove an encapsulant. A liquid non-stick coating 9 is dispensed underneath a chip 1 into a cavity 2 by spraying (see FIG. 2 of Guterrez et al.). This thin liquid non-sticking coating 9 forms a film which inhibits the flow of the polymer encapsulant 11 between the chip and carrier during its application.

Gutierrez et al. fails to disclose, teach or suggest the following features as recited in claim 22:

I. “said film comprises a chemical composition selected so as to not adversely affect properties of said encapsulant”

Or

II. “said properties [of said encapsulant] including

i. a fluxing agent ...

...

iii. having a low viscosity ...

...”

Gutierrez et al. at best discloses a thin liquid non-stick coating 9 that forms a film which *inhibits* the adhesion characteristics of a subsequently applied and cured rigid polymer encapsulant 11 (see column 5, lines 33 and 34).

Gutierrez et al. fails to disclose the *chemical composition* of the film selected so as to *not affect* the properties of the encapsulant as recited in claim 22. Instead Gutierrez et al. teaches that the coating 9 forms a film which *inhibits* and *does negatively affect* the adhesion characteristics of the encapsulant 11. Gutierrez et al. fails to disclose the *chemical composition* of the film selected so as to *not affect* the properties of the second portion encapsulant as recited in claim 22.

It is further submitted that Gutierrez et al. fails to disclose, teach or suggest the feature of the encapsulant having the properties of a *fluxing agent* and a *low viscosity* as recited in claim 22. Gutierrez et al. is silent with respect to the properties of the encapsulant 11 disclosed in Gutierrez et al. There is no disclosure in Gutierrez et al. of encapsulant 11 including the properties of a *fluxing agent* and a *low viscosity* as recited in claim 21.

An advantage of the invention as now recited in claim 22 is that the *low viscosity* of the encapsulant allows solder to flow without impediment from the hard nature of the first portions of

the encapsulant (see page 7, first complete paragraph of the resent application).

Gutierrez et al. fails to disclose, teach or suggest the *chemical composition* of the film selected so as not affect the properties of the encapsulant as recited in claim 22 or the encapsulant including the properties of a *fluxing agent* and a *low viscosity* as recited in claim 22 or the advantages thereof.

In view of the foregoing, withdrawal of the rejection of claim 22 as being anticipated by Gutierrez et al. under 35 U.S.C. §102 is respectfully requested.

Conclusion

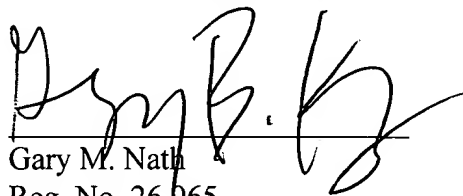
It is respectfully submitted that the application is now in condition for allowance. If it is believed that the application is not in condition for allowance, the Examiner is invited to contact the undersigned if it is believed that such contact will expedite the prosecution of the application.

In the event this paper is not timely filed, Applicants petition for an appropriate extension of time. Please charge any fee deficiencies or credit any overpayment to Deposit Account No. 14-0112.

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